METHOD AND APPARATUS FOR BLOCK-ORIENTED MEMORY MANAGEMENT PROVIDED IN SMART CARD CONTROLLERS
Inventor: Ranier Nase
Docket No.:   0740-73

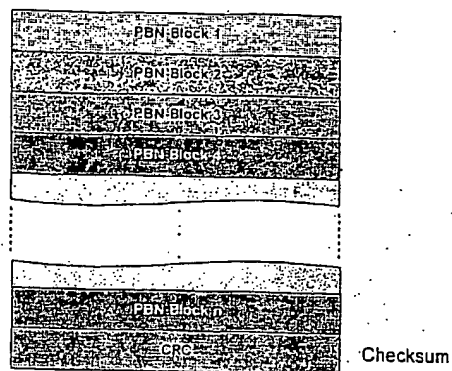**1 / 5**

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Structure of the BAT

Checksum

Figure 1

Statu
Logical Block
Number of next
Block

Frag. Block ID (Bit 3)
Frag. Block ID (Bit 2)
Frag. Block ID (Bit 1)
Frag. Block ID (Bit 0)
Commit-Bit
MSB of Next Block Number
MSB of logical Block Number

LSB Logical
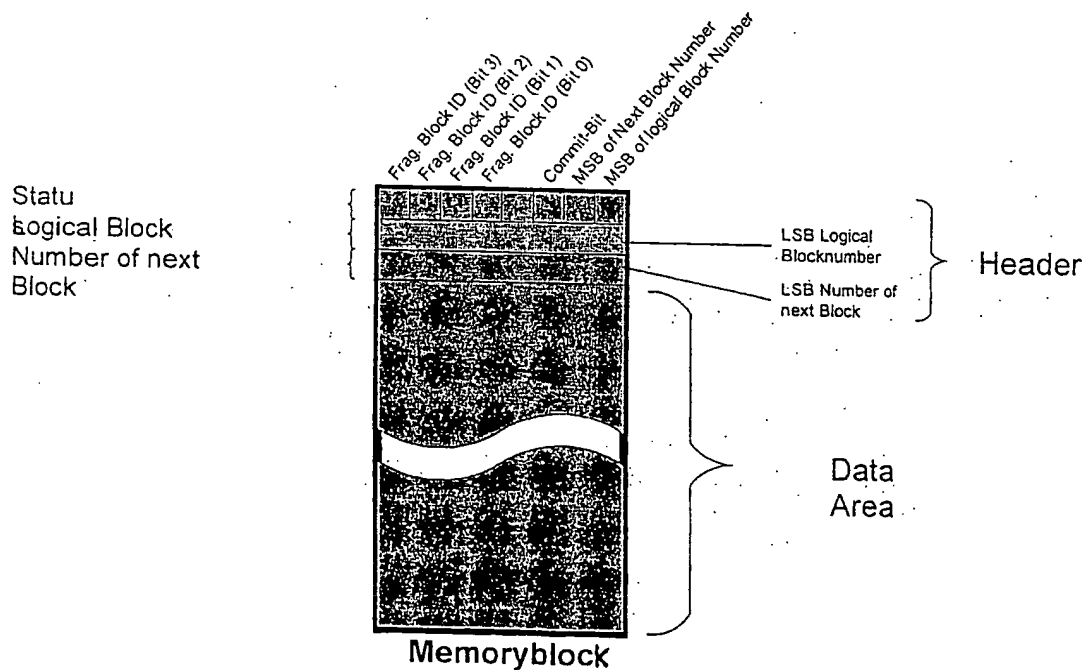Blocknumber

LSB Number of
next Block

Header

Data
Area

Memoryblock

Figure 2
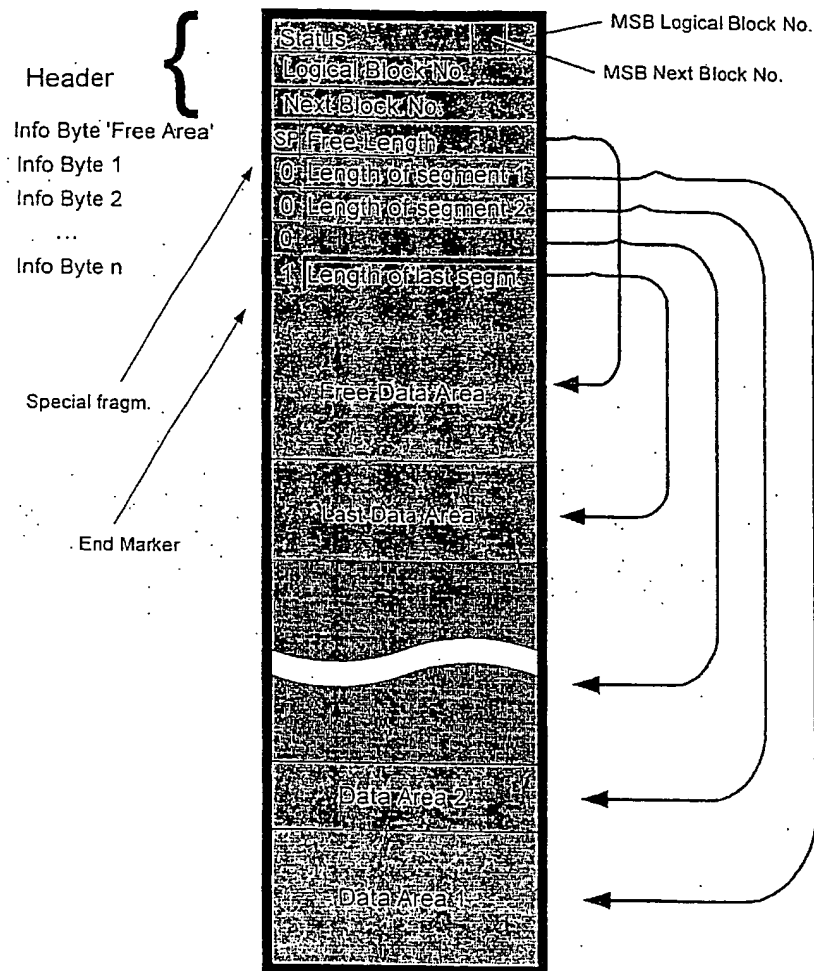
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Header {

Info Byte 'Free Area'

Info Byte 1

Info Byte 2

...

Info Byte n

Special fragm.

. End Marker

MSB Logical Block No.

MSB Next Block No.

Status

Logical Block No.

Next Block No.

Sf Free Length

0 Length of segment 1

0 Length of segment 2

0 ...

1 Length of last segm.

Free Data Area

Last Data Area

Data Area 2

Data Area

Fragmented Memory Block

Figure 3

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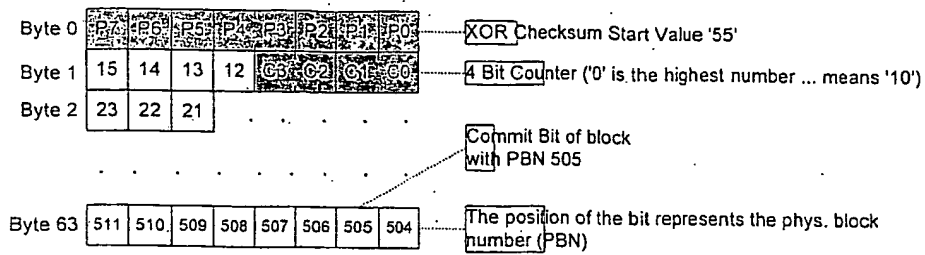Docket No.:   0740-73

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Byte 0	P7	P6	P5	P4	P3	P2	P1	P0

XOR Checksum Start Value '55'

Byte 1	15	14	13	12	C3	C2	C1	C0

4 Bit Counter ('0' is the highest number ... means '10')

Byte 2	23	22	21

Commit Bit of block with PBN 505

Byte 63	511	510	509	508	507	506	505	504

The position of the bit represents the phys. block number (PBN)

Figure 4

Chain of Free blocks

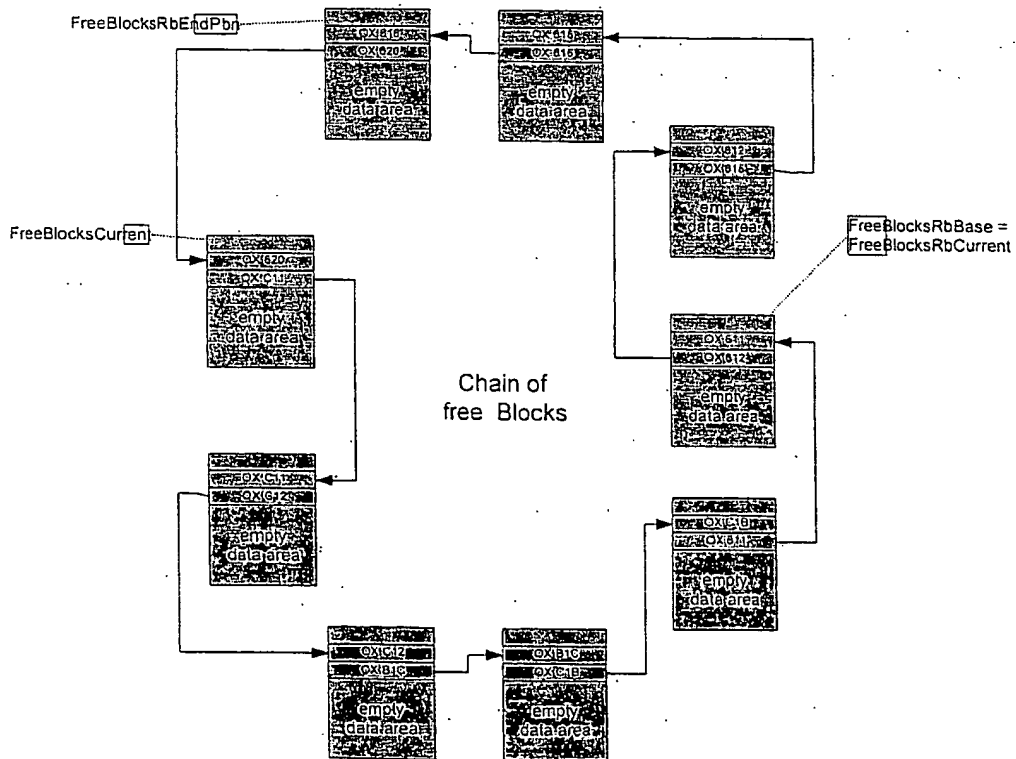**Figure 5**

METHOD AND APPARATUS FOR BLOCK-ORIENTED MEMORY
MANAGEMENT PROVIDED IN SMART CARD CONTROLLERS
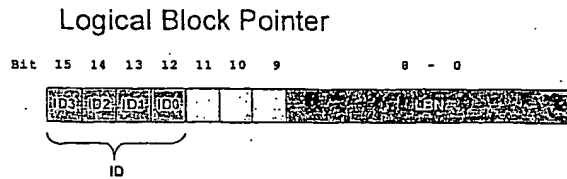Inventor: Ranier Nase
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Logical Block Pointer

Bit 15 14 13 12 11 10 9   8 - 0

| ID3 | ID2 | ID1 | ID0 | | | | LBN |

ID

Figure 6

METHOD AND APPARATUS FOR BLOCK-ORIENTED MEMORY MANAGEMENT PROVIDED IN SMART CARD CONTROLLERS
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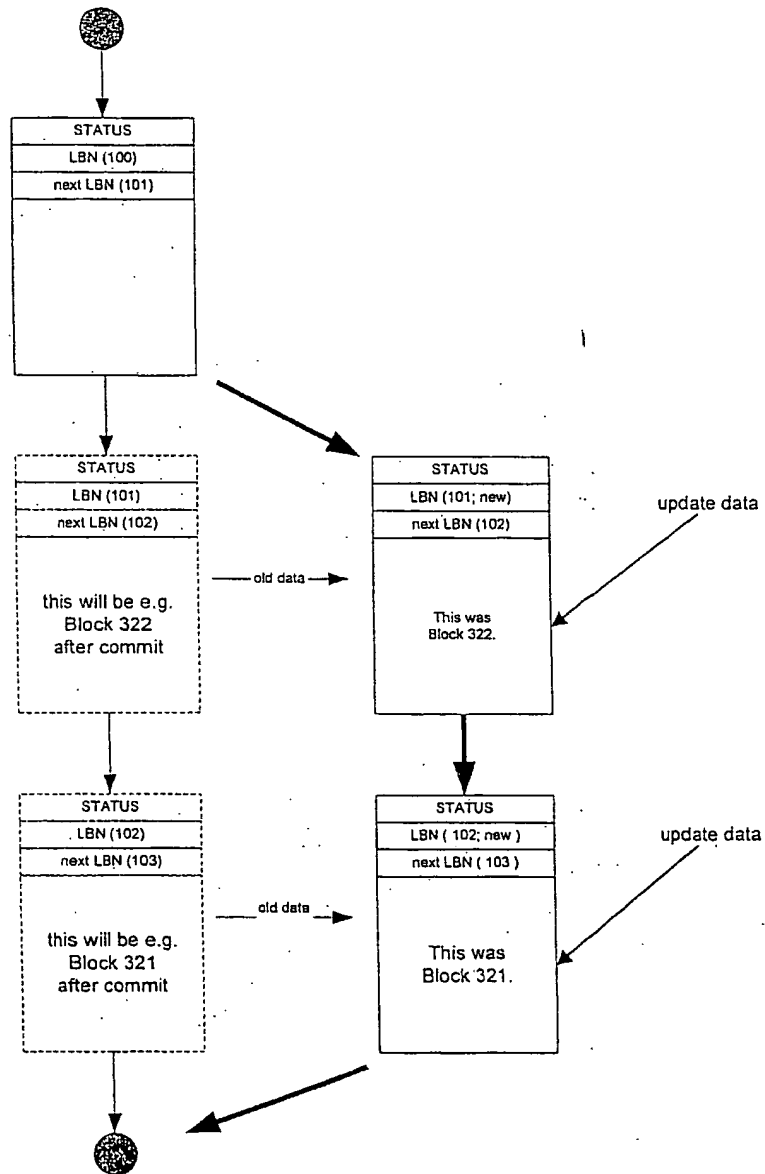Docket No.: 0740-73

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Flow of a Update Process

Figure 7